Below is a list of changes incorporated since the initial release that could affect your results. Please review these modifications to determine if previous analyses need to be computed again.

Release 3.2 (7/15/00)

General:

The Unsignal module has been completely rebuilt, with a new interface consistent with other HCS-3 modules. In addition to having a more user-friendly interface with a dynamic report pane, this program has some features not available in the original program, such as a metric analysis option; computation of the 95th percentile queue length; allowing modifications of the critical gap and follow-up times; and expanding TWSC to allow 4 approach lanes on the major street, assuming a maximum of two through lanes with one exclusive left-turn and/or right-turn lane.

The updated Signals import filter corrects some problems in the original program, such as importing exclusive right turn phases that are shielded by a protected left turn phase.

Signals:

Number of opposing lanes in the supplemental permitted left turn worksheet is now computed as the total number of opposing approach lanes, minus the number of opposing exclusive right turn lanes.

A problem was fixed in calculating the secondary left turn adjustment factor for permitted-protected or protected- permitted phasing in conjunction with certain lane configurations.

Capacity analysis worksheet outputs (adjusted flow rate, flow ratio, v/c ratio) for the secondary portion of the phase in lagging left turn situations are now reported correctly. This reporting problem did not affect subsequent calculations or outputs because correct values were being used internally.

The percent heavy vehicle (%HV) adjustment factor is now applied to shared lane groups using a volume weighted average.

The test for de-facto left turn lanes is no longer applied in case 6 (shared lane with permitted-plus-protected phasing) situations.

Ramps:

Effective freeway volume for 10-lane freeways (HCM Table 5-5) is now being implemented correctly.

Release 3.1c (12/01/99)

General:

The Signals module can now import HCS 1.5 and HCS-2 input files. In order to do this, it is necessary to switch Files of Type > .hcs to .hc9 or .sig in the File > Open dialog box. The HCS-3 Import Filter must be installed for this option to be available.

Signals:

Intersection delay is now based on the delay for all lane groups, including southbound exclusive right turns.

For left-turn movements opposed by a single lane approach, adding an opposing exclusive right turn lane no longer invokes the multilane left turn permitted movement model.

Internal ranges for computed effective green times and left-turn adjustment factors have been expanded.

For some cases where extension of effective green is not equal to start-up lost time, calculation of opposing effective green for permitted left-turns has been corrected.

The progression adjustment factor (PF), which is applied to uniform delay (d1), is now constrained to a maximum value of 1.0 for arrival types 4 through 6.

Weaving:

For metric units, calculation of number of lanes required for unconstrained operation has been corrected.

Release 3.1b (7/1/99)

General:

U.S. Metric units are available for all Windows modules except HCS-Unsignal.

An Edit > Settings > Data (Path) dialog box has been implemented.

Editing the Default Agency Information no longer changes the current Agency Information.

When calculated fields are made blank by the user, the program restores the "calculated" value. A user-defined field value will remain in the field until the user blanks the field, then presses return or leaves the field. (The Edit > Settings > Restore function restores all fields to "calculated" values.)

A default peak-hour factor (PHF) data setting is now available for some modules and, a default ideal saturation flow rate option is implemented in the Signals module.

Ramps:

The reported maximum capacity check now is an interpolated value based on Table 5-1.

Signals:

Calculations within the Uniform Delay Worksheet have been corrected for certain protected-permitted and permitted/protected phasing combinations.

Determination of the critical path has been modified and can affect calculations of Sum (v/s) critical, Lost Time/Cycle and Critical v/c (X), but does not affect delay calculations or LOS.

The defacto left-turn indication is now displayed correctly for all situations.

Unsignal:

TWSC - The calculation of the conflicting volumes for Movements 10 & 11 properly takes into account the conflicting pedestrian movements.

TWSC - The calculation of the capacity for a flared-lane approach does not include capacity of non-existent movements in the calculation.

TWSC - The calculation of the approach delay is canceled in cases where any one of the movements on the approach has zero capacity.

TWSC - The correct data are displayed in cases where there is only one upstream signal.

TWSC - For very large progressed flows, the computation of conflicting flows during the unblocked period will not go negative.

TWSC - The calculation of conflicting flows for the major-street left turns and the minor-street thru movements take into account channelization on the major-street approaches for all situations.

Release 3.1a (3/15/99)

Freeways:

The capability for calculating composite grades has been implemented.

A "Rural" check box has been added to ensure the correct adjustment for number of lanes.

Weaving:

The capability for calculating composite grades has been implemented.

The required number of lanes is now computed correctly for Type B weaves in all cases.

The LOS boundary conditions for densities are now correct for multilane/C-D cases.

Ramps:

The capability for calculating composite grades has been implemented.

The maximum values generated for use in capacity checks have been corrected for all cases.

The file saving mechanism has been modified to ensure file retrieval includes the saved changes.

The LOS boundary conditions for densities now reflect the +/- correctly in all cases.

Multilane:

The capability for calculating composite grades has been implemented.

Signals:

The "short" one-page summary report has been inserted as "Page 1 of 1" into the Report pane.

Page breaks have been inserted into the Report pane and printed output.

A selection box for "Quick Jumps" to specific points in the Input and Report panes has been implemented.

Graphics have been implemented to reflect the coded signal phasing.

Active Planning module data files can now be converted to Operations data files using the "To Operation" menu item.

The output field for approach delay is now considering the exclusive right-turn value when it averages the lane group delays in all cases.

Certain lost time implications in the Supplemental Left-Turn Worksheet and with respect to some all-red intervals have been rectified.

Certain configurations with shared lanes moving in the same phase are now correctly identified.

For situations that produce delays greater than 999.9 seconds, subsequent approach and intersection averages are not computed.

Single lane approaches at T intersections without a thru movement are now handled correctly.

Unsignal:

Capacity for movements with zero conflicting volumes are now computed correctly in TWSC.

Pedestrian impedance conflicting flows now include all appropriate movements in TWSC.

Flared right turns can now be coded for a minor-street approach with no opposing approach in TWSC.

Delay and LOS are now computed for two-stage left-turn conditions where the combined capacity would come out negative.

All pages of the output will now print in all cases in TWSC.

File Save/As now defaults to the .hcu extension.

File Open now includes the "All Files" option.

File names containing spaces can now be handled correctly.

Arterials:

Signals (.hcs) files can now be imported into the analysis.

General:

Temporary files are now stored in a system TMP or TEMP folder when available.